



10/615997

COJC

IMI-40075

PATENT

Practitioner's Docket No. _____

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number: 7,320,414 B2

Issued: January 22, 2008

Name of Patentee: Terrence Robert Davis

Title of Invention: Beverage Dispense

Certificate

FEB 27 2008

of Correction

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT
FOR PTO MISTAKE (37 C.F.R. § 1.322(a))

NOTE: "If such a request for correction was incurred through the fault of the United States Patent and Trademark Office (Office), and is clearly disclosed in the records of the Office, and is accompanied by documentation that unequivocally supports the patentee's assertion(s), a Certificate of Correction will be expeditiously issued. Such supporting documentation can consist of relevant photocopied receipts, manuscript pages, correspondence dated and received by the Office, photocopies of Examiners' responses regarding entry of amendments, or any other validation that supports the patentee's request so that the request can be processed without the patent file." Notice of September, 17, 2002, 1262 OG 96.

1. Attached is PTO/SB/44 (also FORM PTO/1050) in a form suitable for printing.

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2. The exact page and line number where the errors are shown correctly in the application file are:

NOTE: The exact page and line number where the errors occur in the application file should be identified on the request. However, on form PTO/SB/44, only the column and line number in the printed patent should be used. M.P.E.P., § 1485, 8th Edition, Rev. 2.

Column 12, line 60, delete "the"

Amendment dated April 23, 2007

Page 4 of 9, line 8 of Claim 17. (currently amended)

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3. Please send the Certificate to:

Michael Piontek, Esq.
Pyle & Piontek, LLC
221 North LaSalle Street
Suite 2036
Chicago, IL 60601.

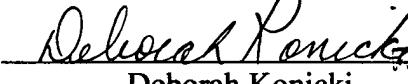
Respectfully submitted,



Michael Piontek, Reg. No. 25,605
Pyle & Piontek, LLC
221 North LaSalle Street, Suite 2036
Chicago, IL 60601
(312) 236-8123

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UNITED STATES PATENT AND TRADEMARK OFFICE
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Page 1 of 1

PATENT NO. : 7,320,414 B2

APPLICATION NO.: 10/615,997

ISSUE DATE : January 22, 2008

INVENTOR(S) : Terrence Robert Davis

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 12, line 60, delete "the"

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**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**Page 1 of 1

PATENT NO. : 7,320,414 B2

APPLICATION NO.: 10/615,997

ISSUE DATE : January 22, 2008

INVENTOR(S) : Terrence Robert Davis

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 12, line 60, delete "the"

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Application No. 10/615,997
Amendment Dated April 23, 2007
Reply to Office Action of February 9, 2007



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of)
Terrence R. Davis)
Examiner: Frederick C. Nicolas
Serial No. 10/615,997)
Group Art Unit 3754
Filed: July 8, 2003)
Attorney Docket IMI 40075
For: Beverage Dispense)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

In response to the Office Action dated February 9, 2007, please amend the application as follows:

Amendments to the claims begin on page 2 of this paper.

Remarks begin on page 7 of this paper.

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drain valve that is closed to prevent air being drawn into the nozzle during beverage dispense.

13. (original) A dispense head according to claim 12 wherein, when the dispense valve is closed at the end of the dispense, the drain valve is opened allowing air to be drawn into the nozzle by the vacuum created by the flow of the beverage and allowing the nozzle to drain fully.

14-15. (cancelled).

16. (cancelled)

17. (currently amended) A dispense head according to claim 16 comprising an inlet for connection to a beverage supply line, said inlet communicating with a dispense valve opening to a dispense nozzle having an outlet, and means for draining said dispense nozzle downstream from said dispense valve through said dispense nozzle outlet when said dispense valve is closed, said draining means including means for admitting air to said dispense nozzle downstream from said dispense valve and upstream from said outlet, wherein the said means for admitting air comprises an air inlet to the said dispense nozzle upstream from the said outlet for admitting air into the said dispense nozzle to drain the said dispense nozzle on completion of a dispense.

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18. (withdrawn) A dispense head according to claim 17 wherein the airway comprises an unrestricted passageway open to atmosphere and air is prevented from being drawn into the nozzle during beverage dispense by a small proportion of the

example a lower flow at the start and end of the dispense. In this way, more accurate control of the dispense can be achieved.

Where the supply lines are connected to sources of different beverages, opening both solenoid valves 221a, 221b allows dispense of a mixture of beverages and dispense may be controlled to provide any desired ratio of each beverage in the dispensed beverage.

On completion of the dispense, the solenoid valves 221a, 221b are closed to shut-off the flow of beverage to the nozzle 220 and solenoid valve 240 is opened. As a result, the flow of beverage downstream of the valves 221a, 221b creates a vacuum in the nozzle 220 that causes air to be drawn into the nozzle 220 via passageway 241 and allows the nozzle 220 to drain fully without interruption of flow.

As will be appreciated, the dispense head 203 is operable to drain the dispense nozzle 220 at the end of each dispense. As a result, substantially full dispense of a measured volume of beverage can be achieved and beverage is not retained in the dispense head 203 downstream of the valves 221a, 221b between dispenses.

Additionally, because the air is admitted in a controlled manner at the end of the dispense, it does not give rise to any significant foaming within the dispense head 203.

Furthermore, because draining occurs without interrupting the flow at the end of the dispense, dispense times are not significantly increased. This is of particular benefit where both valves 221a, 221b are opened for all or part of the dispense to provide a fast dispense.

Moreover, no beverage remains in the nozzle 220 which can warm-up between dispenses and/or degrade. In this way the potential adverse effect on the next dispense of beverage that has warmed-up and/or degraded in the nozzle 220 is significantly reduced.

The beverage dispense head in the above described embodiments is provided with separate beverage inlets connected to a common dispense nozzle via individual dispense valves such that each beverage supply may be dispensed separately or in combination with one or more other beverage supplies. It will be understood, however that other arrangements may be employed.

For example, at least two separate beverage inlets may communicate with a common dispense nozzle via a common dispense valve whereby the beverage supplies to the inlets are dispensed together. Additional inlets may communicate with the same dispense valve or with a separate dispense valve that opens to the same dispense nozzle. As will be appreciated various combinations of inlets and dispense valves may be employed.

The beverage dispense nozzle in some of the above described embodiments is provided with means for draining the nozzle on completion of a dispense in dispense heads in which separate beverage supplies communicate with respective inlet sections of the nozzle via individual dispense valves. It will be understood, however that other arrangements may be employed.

For example, a nozzle drain may be applied to dispense heads in which the flow of liquid through the dispense nozzle is controlled by a single dispense valve. The dispense valve may control beverage flow from one or more supplies and may be electrically operable such as a solenoid valve or mechanically operable.

Other modifications and improvements that can be made to the dispense head and dispense system will be apparent to those skilled in the art.

I claim:

1. A dispense head comprising a plurality of inlets for connection to separate beverage supply lines, each said inlet communicating with a respective one of a plurality of dispense valves and through its respective dispense valve with an associated one of a plurality of inlet sections that merge into a common outlet section leading to a common dispense nozzle, and including means for operating the dispense valves to provide a flow of beverage therethrough and from the dispense nozzle, such that a lower flow rate of beverage is provided from said dispense nozzle at one or both of the start of dispense of beverage and the end of dispense of beverage from said dispense nozzle by selectively opening and closing said dispense valves such that at one or both of the start of dispense of beverage and the end of dispense of beverage from said dispense nozzle at least one, but less than all, of said dispense valves are closed.

2. A dispense head according to claim 1, wherein said dispense valves are on/off solenoid valves.

3. A dispense head according to claim 1, wherein said dispense valves are operable via a control unit in response to user actuation of a dispense.

4. A dispense head according to claim 1, wherein said outlet section has a cross-sectional area matching the combined cross-sectional areas of said inlet sections.

5. A dispense head according to claim 1, wherein said inlet sections are inclined relative to said outlet section and converge to merge smoothly into said outlet section avoiding sudden changes in the direction of flow.

6. A dispense head comprising a plurality of inlets for connection to separate beverage supply lines, each inlet communicating with a dispense valve opening to a common dispense nozzle having a lower beverage outlet, wherein means is provided for draining the dispense nozzle downstream of the dispense valve when the dispense valve is closed, and wherein the drain means comprises an airway for admitting air to the dispense nozzle upstream from the outlet at the end of the dispense to drain beverage from the dispense nozzle through the lower outlet, wherein the airway comprises a passageway controlled by a drain valve that is closed to prevent air being drawn into the nozzle during beverage dispense.

7. A dispense head according to claim 6, wherein when the dispense valve is closed at the end of the dispense, the drain valve is opened allowing air to be drawn into the nozzle by the vacuum created by the flow of the beverage and allowing the nozzle to drain fully.

8. A dispense head comprising an inlet for connection to a beverage supply line, said inlet communicating with a dispense valve opening to a dispense nozzle having an outlet, and means for draining said dispense nozzle downstream from said dispense valve through said dispense nozzle outlet when said dispense valve is closed, said draining means including means for admitting air to said dispense nozzle downstream from said dispense valve and upstream from said outlet, wherein said means for admitting air comprises an air inlet to said dispense nozzle upstream from the said outlet for admitting air into said dispense nozzle to drain said dispense nozzle on completion of a dispense.

9. A dispense head comprising an inlet for connection to a beverage supply line, said inlet communicating with a dispense valve opening to a dispense nozzle, and means for draining said dispense nozzle downstream from said dispense valve when said dispense valve is closed, wherein said

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